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Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals

Sub-Committee of Experts on the Transport of Dangerous Goods

Fifty-third session
Geneva, 25 June-4 July 2018
Item 2 (j) of the provisional agenda
Explosives and related matters:
Miscellaneous

Update of the reference to ISO 12097 in section 2.1.3.6.4 of the Model Regulations

Transmitted by the expert from the Germany*

Introduction

1. The standard ISO 12097 is mentioned in the Model Regulations in section 2.1.3.6.4 (b) and is referenced as an example, how to perform a fire test on a single explosive artic'e being candidate for exclusion from class 1.

2. According to section 2.1.3.6.4, one of the criteria for the exclusion from class 1 of an explosive article is to test on "*... no rupture or fragmentation of the external casing ...*" when operated as designed or comes to functioning by an external fire.

3. During the fifty-second session the update of the reference to the more current and more suitable standard ISO 14451 was discussed on the basis of informal document INF.10. The conclusion was general support for the suggested replacement of the reference. The report of the "Working group on Explosives" (see informal document INF.53 (52nd session)) indicated that Germany would come forward with a formal proposal. The proposal in this paper offers the amended wording as it resulted from the discussion in the working group.

* In accordance with the programme of work of the Sub-Committee for 2017–2018 approved by the Committee at its eighth session (see ST/SG/AC.10/C.3/100, paragraph 98 and ST/SG/AC.10/44, para. 14).

Background

4. The standard ISO 12097 was first published in 2002 with the scope being airbag components and inflators. During the time after the standard had been published, experts began to narrow down the specifications of the fire test described in section 7.4 of part 3 of this standard, in order to guarantee more reproducible and comparable test results. The improved specifications entered the text of the more recent standard ISO 14451, which in addition has a wider scope being "pyrotechnic articles for vehicles" in general.

5. Therefore, the fire test described in part 3 of ISO 14451 is technically a direct replacement of the fire test currently referenced in the Model Regulations, the only difference being improved specifications enabling better application of the test. And, since criteria and test description have been separated in the ISO 14451 series, the heating rate of 80 K/min to be applied in the test, now needs to be mentioned explicitly to be consistent with the previous prescriptions. The background repeated in brief here, had already been appreciated by the "Working Group on Explosives" during the last session.

Proposal

6. Replace in section 2.1.3.6.4 of the Model Regulations the reference to ISO 12097-3 by the corresponding reference to ISO 14451-2 explicitly mentioning the heating rate of 80 K/min, as indicated below.

7. Amend the Note in 2.1.3.6.4 (b) to read as follows (amendment underlined):

"***NOTE:*** *Where the integrity of the article may be affected in the event of an external fire, these criteria shall be examined by a fire test such as described in ISO 14451-2 while using a heating rate of 80 K/min.*"

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Sub-Committee of Experts on the Transport of Dangerous Goods

Fifty-third session
Geneva, 25 June-4 July 2018
Item 7 of the provisional agenda
Global harmonization of transport of dangerous goods regulations with the Model Regulations

Name and description of UN No. 3363

Transmitted by the expert from the Germany*

Introduction

1. At its fifty-second, the Sub-Committee discussed the need for amendment to the name and description of UN No. 3363 to align them with the name and description of articles of UN Nos. 3537 to 3547. The Sub-Committee finally adopted a compromise proposal developed by a lunchtime group as contained in informal document INF.56, i.e. the alternative name and description "dangerous goods in articles" was added for UN 3363 in the dangerous goods and "article" was incorporated as a superordinate term in the text of special provision 301. During the discussion, it was noted that the text of P907 would have to be amended accordingly.

2. The adopted texts are contained in Annex II of ST/SG/AC.10/C.3/104/Add.1. However, it seems that the consequential amendments to P907 require some additional editorial corrections. Two options are provided below:

Proposal

Option 1:

3. Replace the consequential amendment to 4.1.4.1, packing instruction P907 as contained in Annex II of ST/SG/AC.10/C.3/104/Add.1 by the following:

> "Insert a new introductory sentence as follows: "This instruction applies to articles, such as machinery, apparatus or devices of UN No. 3363."

* In accordance with the programme of work of the Sub-Committee for 2017–2018 approved by the Committee at its eighth session (see ST/SG/AC.10/C.3/100, paragraph 98 and ST/SG/AC.10/44, para. 14).

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Please recycle

In the first (new second) sentence, replace "machinery or apparatus" by "article". In the second (new: third) sentence replace "machinery or apparatus" by "an article". In the fifth (new: sixth) sentence replace "machinery or apparatus" by "article" (twice). In the sixth (new: seventh) sentence replace "machinery or apparatus" by "article"."

Option 2:

4. Replace the consequential amendment to 4.1.4.1, packing instruction P907 as contained in Annex II of ST/SG/AC.10/C.3/104/Add.1 by the following:

"In the first sentence, replace "machinery or apparatus" by "article, machinery or apparatus". In the second sentence replace "machinery or apparatus" by "the article, machinery or apparatus". In the fifth sentence replace "machinery or apparatus" by "article, machinery or apparatus" (twice). In the sixth sentence replace "machinery or apparatus" by "article, machinery or apparatus"."

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Sub-Committee of Experts on the Transport of Dangerous Goods

Fifty-third session

Geneva, 25 June-4 July 2018
Item 5 (b) of the provisional agenda
Transport of Gases: miscellaneous

Shells for UN acetylene cylinders

Transmitted by the experts from Canada*

Introduction

1. This document proposes to revise the shell requirements in 6.2.2.1.3 for UN acetylene cylinders to better align with the shell requirements in ISO 3807:2013. ISO 3807:2013 supersedes both ISO 3807-1:2000 and ISO 3807-2:2000 and at the forty-fourth session of the Sub-Committee, the International Organisation for Standardisation (ISO) submitted a formal document (ST/SG/AC.10/C.3/2013/61) and informal documents INF.13 and INF.26 (44th session) which proposed that ISO 3807-1:2000 and ISO 3807-2:2000 be replaced by ISO 3807:2013. ISO 3807:2013 includes new provisions for shells which were not addressed during its adoption.

Proposal

2. Amend the text of 6.2.2.1.3 as shown. New text is underlined and deleted text is ~~struck-out~~.

> 6.2.2.1.3 The following standards apply for the design, construction and initial inspection and test of UN acetylene cylinders, except that inspection requirements related to conformity assessment system and approval shall be in accordance with 6.2.2.5:

* In accordance with the programme of work of the Sub-Committee for 2017–2018 approved by the Committee at its eighth session (see ST/SG/AC.10/C.3/100, paragraph 98 and ST/SG/AC.10/44, para. 14).

For the cylinder shell:

Reference	Title	Applicable for manufacture
ISO 9809-1:1999	Gas cylinders -- Refillable seamless steel gas cylinders -- Design, construction and testing -- Part 1: Quenched and tempered steel cylinders with tensile strength less than 1 100 MPa ***Note**: The note concerning the F factor in section 7.3 of this standard shall not be applied for UN cylinders.*	Until 31 December 2018
~~ISO 9809-1:2010~~	~~Gas cylinders — Refillable seamless steel gas cylinders — Design, construction and testing — Part 1: Quenched and tempered steel cylinders with tensile strength less than 1 100 MPa~~	~~Until further notice~~
ISO 9809-3:2000	Gas cylinders -- Refillable seamless steel gas cylinders -- Design, construction and testing -- Part 3: Normalized steel cylinders	Until 31 December 2018
~~ISO 9809-3:2010~~	~~Gas cylinders — Refillable seamless steel gas cylinders — Design, construction and testing — Part 3: Normalized steel cylinders~~	~~Until further notice~~
ISO 3807:2013	Gas cylinders -- Acetylene cylinders -- Basic requirements and type testing	Until further notice

For the porous material in the cylinder

Reference	Title	Applicable for manufacture
ISO 3807-1:2000	Cylinders for acetylene — Basic requirements — Part 1: Cylinders without fusible plugs	Until 31 December 2020
ISO 3807-2:2000	Cylinders for acetylene — Basic requirements — Part 2: Cylinders with fusible plugs	Until 31 December 2020
ISO 3807:2013	Gas cylinders -- Acetylene cylinders -- Basic requirements and type testing	Until further notice

Justification

3. Unlike ISO 3807-1:2000 and ISO 3807-2:2000, ISO 3807:2013 includes technical requirements for the cylinder shell. ISO 3807:2013 allows shells to be manufactured in accordance with ISO 9809-1, ISO 9809-3, ISO 4706, or ISO 7866, all of which are standards referenced for the design, construction and initial inspection and test of UN cylinders in 6.2.2.1.1. As written, 6.2.2.1.3 only authorises shells manufactured in accordance with ISO 9809-1 or ISO 9809-3. This change will also allow shells manufactured in accordance with ISO 4706 or ISO 7866, which was the intent of the technical experts who developed ISO 3807:2013.